**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

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| **Applicant(s):** | Henrik T. Jensen | **Docket:** | BP 3353 |
| **Serial No.:** | 10/821,057 | **Art Unit:** | 2618 |
| **Filed:** | 04/08/2004 | **Examiner:** | Blanc J. Jackson |
| **Title:** | Hardware efficient RF transceiver I/Q imbalance compensation based upon taylor approximation | | |

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**RESPONSE TO OFFICIAL ACTION UNDER 37 C.F.R. § 1.111**

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Mail Stop Amendment
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Responsive to the Official Action having a mailed date of June 15, 2007, with an extended period of response now set to expire October 15, 2007, Applicant hereby makes the following amendments, arguments and remarks. As such, reconsideration of the action and allowance of the present application are respectfully requested and are believed to be appropriate in view of the following:

**IN THE SPECIFICATION**

Please correct the paragraph at page 15, beginning on line 14 as follows:

In many practical situations, it is difficult or even impossible to directly determine the transmitter I/Q imbalance parameters $\theta$ and $\varepsilon$ because they are complicated non-linear functions of circuit and transistor behavior. Instead, the I/Q imbalance can be measured indirectly either through a measurement of the modulation error (EVM) ~~(HENRIK—CORRECT ACRONYM?)~~ of the transmitter or by a tone-test, wherein the transmitter is configured to transmit a sinusoidal signal.

Please correct the paragraph at page 21, beginning on line 4 as follows:

Figure 9 shows a typical example of a simulated sequence of TCIRR measurements when the image rejection of an RF transmitter, such as in Figure 3 or 4, is calibrated using the algorithm described in the above. Specifically, compensation parameters in the formats of ~~equations(8)~~ equations (8) and (9) were employed, resulting in a total number of TCIRR measurement steps equal to 21. The imbalance parameters were the same as used in Figure 8, i.e., $\theta = \pi/64$ [[rads]]radians. $\approx 2.8°$ and $\varepsilon$=10%. For each TCIRR measurement step, the corresponding value of TCIRR is shown in the bar graph. The optimal TCIRR arrived at is 58dB, in good agreement with equation (13), corresponding to compensation parameter values $K_{\varepsilon}$=0.91015625 and $\theta_{\varepsilon}$=0.05078125 [[rads]]radians.

For the two instances on lines 5 and 16 on page 21 of "lowpass", please rewrite as –low pass–. Please see remarks if any question arises about this amendment request.